UPX
User's Guide

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Overview

Thank you for choosing IWILL UPX high performance motherboard. The UPX support Single Intel Socket-604 Xeon (Prestonia) at 400 MHz Front Side Bus (FSB) , based on Socket-604 motherboard (M/B) and the ATX form factor featuring the ServerWorks chipset. As the latest ServerWorks chipset is built in the M/B. In the memory support, UPX fully Four DIMM slots support up to 4GB PC2100 memory with ECC function. One more advantage is the UPX provides dual Promise (PDC20271) ATA-133 IDE RAID channels to increase I/O transformation to maximum 400MB/sec (100MB/sec per IDE channel)
Flexibility and expandability are always concerned by IWILL, UPX contains 3 PCI32 slots 、1 PCI 64 and 2 PCI-X slots for numerous add-on cards. Other features such as Dual Broadcom 5702 (32bit/ 66MHz) Gigabit Ethernet controllers will provide high system capabilities that meet a wide range of demanding Sever applications.

Unpacking

Remove all items from the box and make sure you have these following items: If you discover damaged or missing items, please contact your retailer.

- ❒ One IWILL UPX motherboard
- ❒ One 80-wire ATA-66 ribbon cable
- ❒ One 40-pin ATA-33 ribbon cable
- ❒ One floppy ribbon cable
- ❒ One bag of spare jumpers
- ❒ One UPX user's guide
- ❒ One CD containing drivers and utilities
- ❒ One Onboard RAID & LAN User's Guide
- ❒ IDE RAID driver disk(s)

Features Highlight

CPU	▪ Single Intel Socket-604 Xeon (Prestonia) CPU at 400 MHz Front Side Bus (FSB) ▪ Support 2.0+ GHz ▪ Designed for Socket-604 technology.
Chipset	▪ UPX uses the latest ServerWorks Chipset ▪ North Bridge：GC-SL ▪ South Bridge：CSB5 ▪ I/O Bridge：CIOB-X2 ▪ Because the powerful features of its components, it can fully support 2 PCI-X slots and Four DIMM slots supports up to 4GB PC2100 DDR DIMM Module with ECC function support.
System Memory Support	▪ Registered DDR DIMM Module Support Only ▪ Four DIMM slots support up to 4GB PC1600 memory with ECC function
Onboard IDE RAID Controllers	▪ Promise (PDC20271) ATA-133 IDE RAID controller. ▪ Support RAID level 0 / 1 /10 ▪ ATA/133 Compatible
Onboard LAN Controllers	▪ Dual Broadcom 5702 (32bit/ 66MHz) Gigabit Ethernet controllers
Onboard VGA Controller	▪ ATI RageXL video controller with 8MB memory.

Onboard IDE RAID Controllers	▪ Use Promise (PDC20271) ATA-133 IDE RAID controller, and up to four drivers. ▪ Support RAID level 0 / 1 /10 ▪ ATA/133 Compatible
IDE Controllers	▪ Onboard PCI Bus Master IDE controller provides two IDE connectors. And each connector supports two IDE devices. ▪ Support Ultra DMA mode 5 (ATA-100), Ultra DMA mode 4 (ATA-66) Ultra DMA 33, PIO Mode 3 and 4 and Bus Master IDE DMA Mode 4, and supports Enhanced IDE devices.
Expansion Slots	▪ Contain 3 PCI-32 slots 、1 PCI-64 slot and 2 PCI-X slots.
Super Multi-I/O	▪ NS super I/O ▪ 1 Floppy Connector ▪ 1+1 serial ports with UART 16550 ▪ One Parallel port with ECP/EPP support ▪ Dual ICMB Connectors ▪ Dual Onboard USB Connectors 2 USB headers ▪ PS/2 mouse and keyboard connectors with Wake-Up function.
Dimension	▪ Extended ATX form factor-12"x10.5"
Wake-On-LAN	▪ Support Wake-On-LAN activity with onboard NIC /internal network card that contain WOL connector when enable the function" Wake Up on LAN" in the power management of BIOS Setup Utility.

BIOS Support	▪ Phoenix BIOS on 4MB flash ▪ Supports IDE CD-ROM boot-up. ▪ Legacy USB support ▪ Jumper-less setting for Vcore and CPU host bus frequency setting table ▪ MO, DVD, CD-ROM support
Enhanced ACPI	▪ Fully implements the ACPI standard for Windows 98/NT4.0/2000 compatibility.
Desktop Management Interface (DMI)	▪ Support DMI through BIOS, which allows hardware to communicate within a standard protocol creating a higher level of compatibility.
Hardware Monitoring	▪ Winbond 83910F BMC (Base-board Management Controller) onboard ▪ IPMI compliance feature connector
PC99 Compliant	▪ UPX is fully compliant with the Microsoft PC99 specification at both the hardware and BIOS levels.
VRM Support	▪ Support VRM 9.1 specification.
OS Support	▪ Windows 2000 ▪ Linux Red Hat 7.x

About This User Guide

This manual explains how to build up your system with UPX in detail. Please follow the procedures of this User Manual carefully and pay special attention to these icons.

IMPORTANT

This icon informs you for particularly important details regarding the setup or maintenance of your system. While we point out the most vital paragraphs in a chapter, you should always read every word carefully. Failing to do so can cause exasperation.

WARNING

This icon alerted you for potential dangers during setting up your system with UPX. These warnings should not be regarded as the whole of your safety regimen. Never forget that computer are electronic devices and are capable of delivering a shock. Prevent damage to yourself and to your board: always ensure that your system is turned off and unplugged the power cords whenever you are working with it, and that you are equipped

NOTE

This icon alerted you for notice during setting up your system. It provides you can useful alert during setting up a new system.

TIP

This icon will show you how to configure your system with UPX in an easy and simple ways. This icon always provides some useful description to help you configure your system.

Getting Help

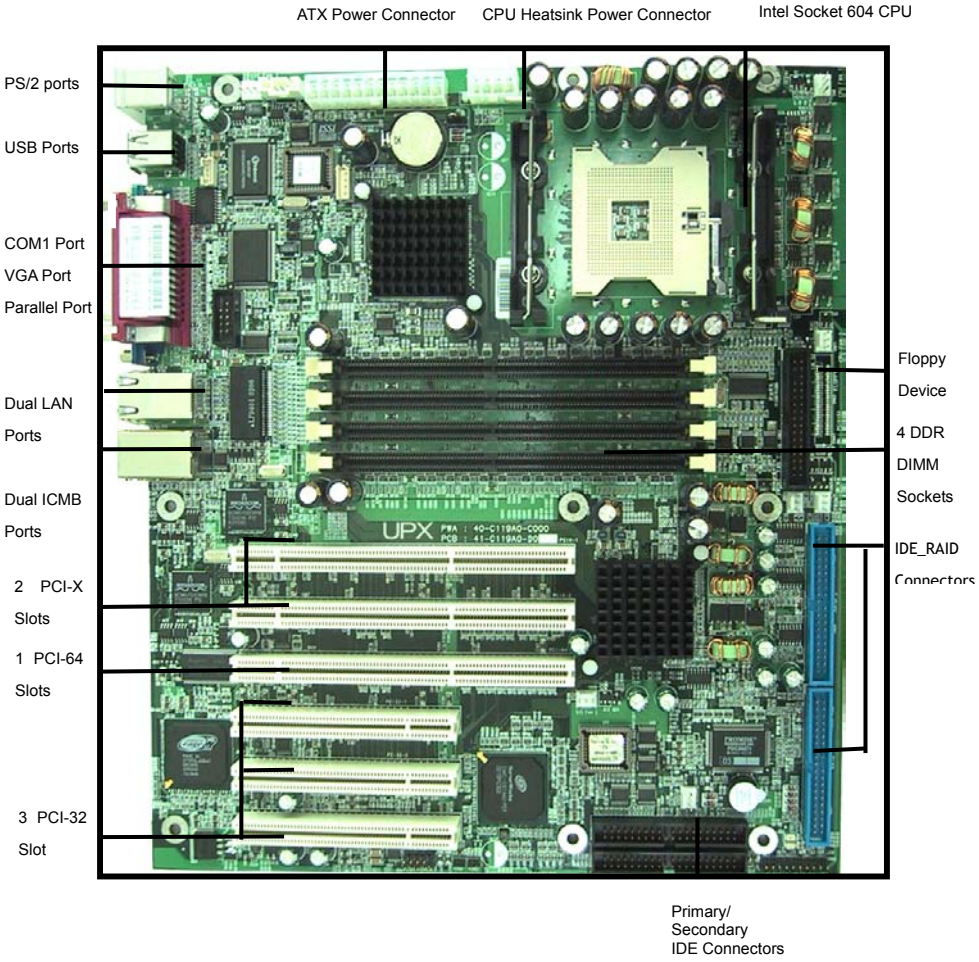
If a problem arises with your system during installation or OS operating, you should ask your dealer for help first as your system has most likely be configured by them. They always have the best idea and quick response for your symptoms. If your dealer is near to your locations, you should bring your system to them to have it quickly serviced instead of attempting to solve the problem by yourself. Besides these, IWILL also provides some helpful resources to help you.

1. Select IWILL 's website at www.iwill.net and navigate to this product page which contain links to product updates such as Jumper settings or BIOS updates.

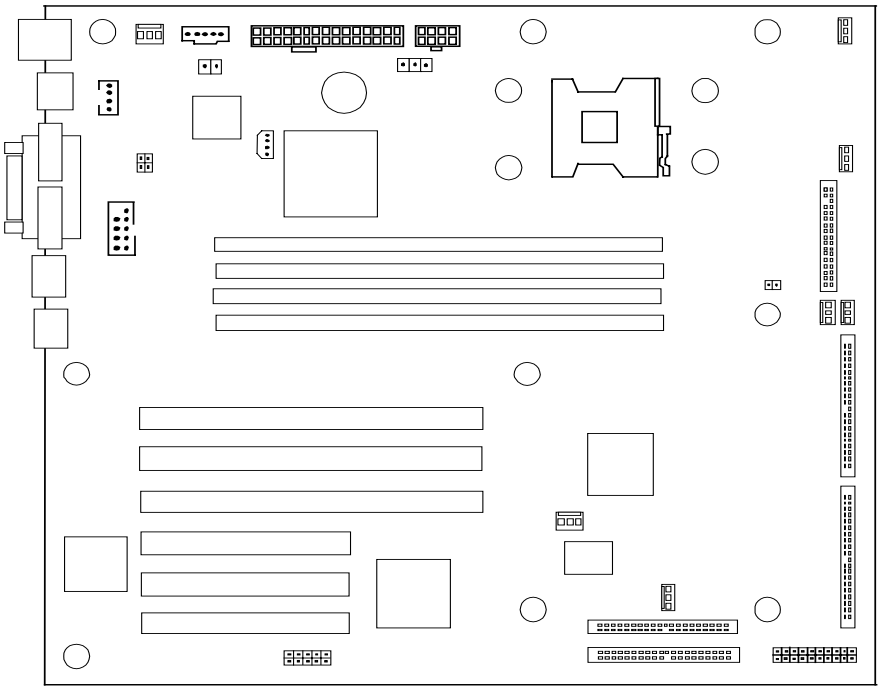
2. FAQ sections on IWILL Website are often helpful since other user's questions are often your own.

3. Email us at: support_te@iwill.net and we will try to answer your questions within 24 hours. Before you email your symptom to support_te@iwill.net ease fill in the symptom report form in order to let our engineers solve your problem quickly.

UPX Motherboard (Picture)



UPX Motherboard (Layout)



Chapter 1

Hardware Installation

In this chapter, the installation of the UPX with the processor and other hardware connected to your system will be explained in detail.

Installation Procedures

Installation procedures will be broken down to six major parts.

Step 1:Jumper setting
Step 2: Install memory (Registered DDR DIMM Module)
Step 3: Install Intel Socket-604 Xeon (Prestonia) CPU
Step 4: Attach cables to connectors
Step 5: Install expansion cards
Step 6: Power connection

Warning

This motherboard contains sensitive electronic components that can be easily damaged by static electricity. Follow the instructions carefully to ensure correct installation and to avoid static damage.

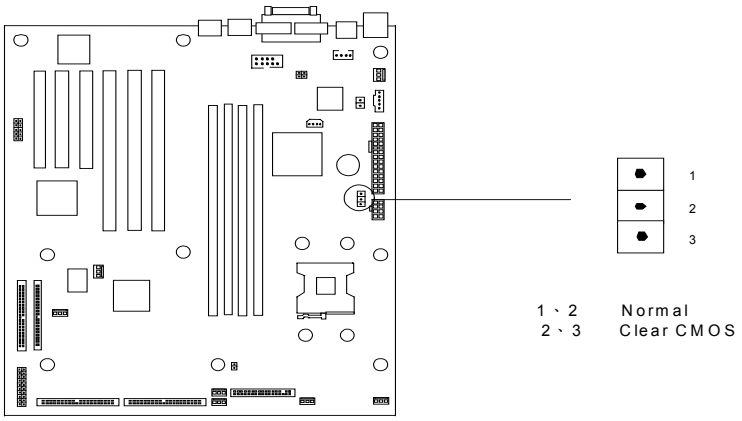
Step 1.

Jumper Setting

There are two jumpers you can use to change the setting on the motherboard.

1. Clear Real Time Clock (RTC) RAM

The onboard button cell battery powers the CMOS RAM. It contains all the BIOS setup information. Normally, it is necessary to keep the jumper connected to pin1 and pin2 (Default) to retain the RTC data as shown below.



UPX Clear CMOS Header

Note

Should you want to clear the RTC data:
(1) Soft off your computer
(2) Short pin2 and pin3 with jumper for few seconds
(3) Connect pin1 and pin2 with jumper again.
(4) Turn on your computer by pressing the power-on button from front-panel.

(5) Hold down <Delete> during bootup and select <Load Optimal Defaults> or <Load Failsafe Defaults> option in the selection <Exit>. Then re-enter BIOS setup to re-enter user preferences.

Step 2

Install Memory

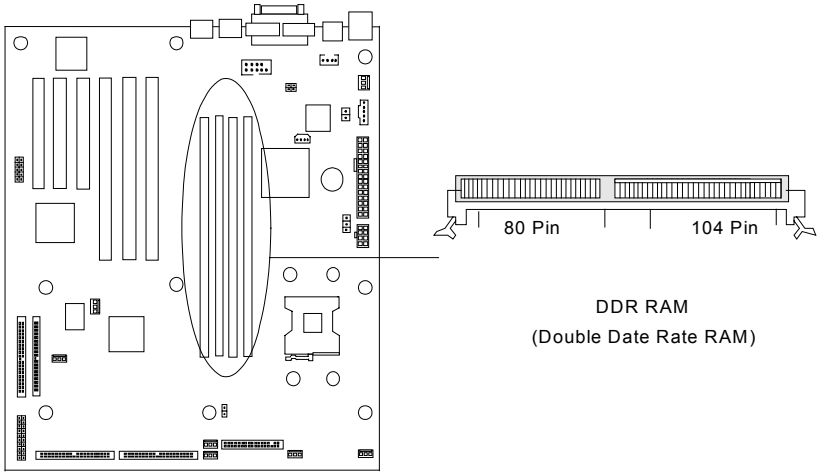
UPX uses 184-pin Double Data Rate (DDR) Inline Memory Modules (DIMM). Four DIMM slots are available for 2.5 Volts (power level), PC2100,Registered DDR DRAM Module with 1MB, 2MB, 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB, 512MB and 1GB combinations. Memory size can support up to 4GB.

IMPORTANT

- **PC2100 Registered DDR DRAM Module Support Only.**
- **Supports 4 banks up to 4GB DDR DIMM Modules for Registered DDR modules.**

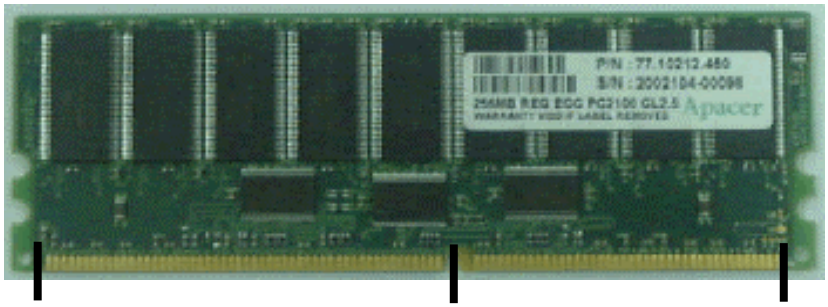
Memory Installation Procedures

1. Locate the DIMM modules on the UPX



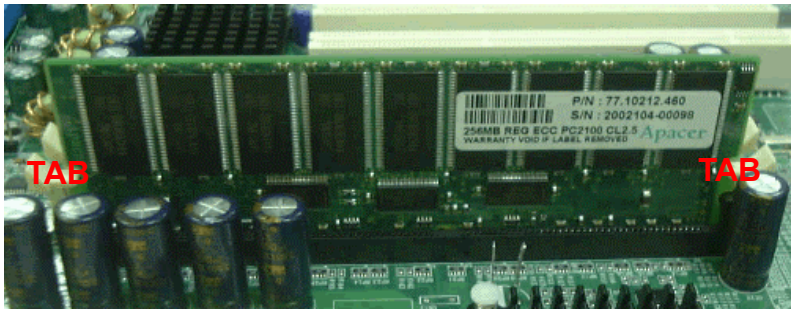
UPX Memory Module

2. Make sure the DIMM module's pins facing down and match the slot's size as depicted below ：

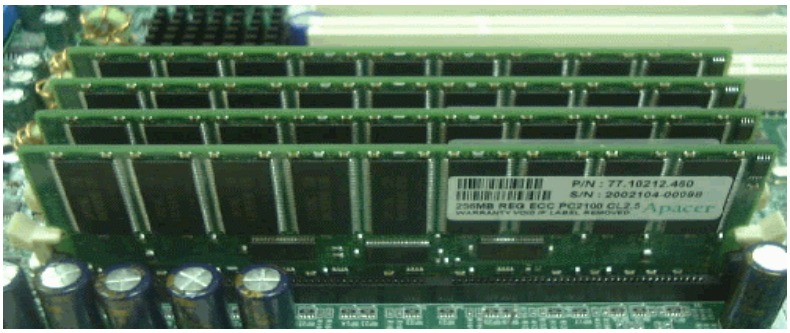


104 pins 80 pins

3. Insert the module down to the DIMM slot in with both hands and press down firmly until the DIMM module is securely in place. (The tabs of the slot will close-up to hold the DIMM in place when the DIMM touches the socket's bottom.)



4. Repeat step1 to step 3 to add additional DIMM modules.



WARNING

PC2100 Registered DDR DRAM Module Support Only.

Step 3

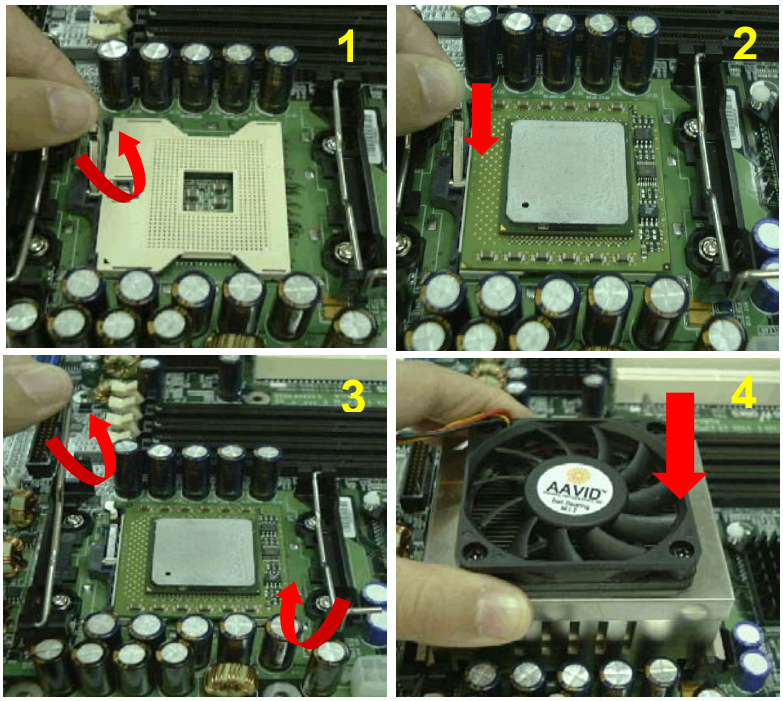
Install CPU

UPX supports Single Socket 604 Xeon (Prestonia) at 400 MHz Front Side Bus (FSB)

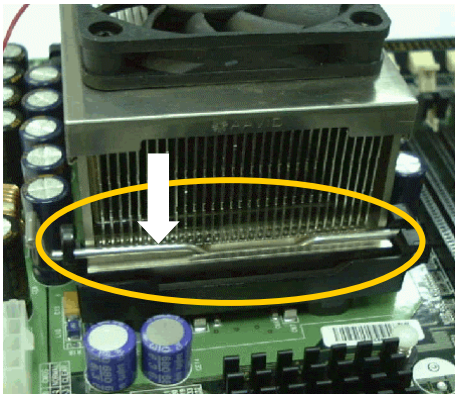
CPU Installation Procedures

1. Lift up the socket lever and carefully place the socket 604 Xeon (Prestonia) CPU with the correct orientation as the figures are shown below

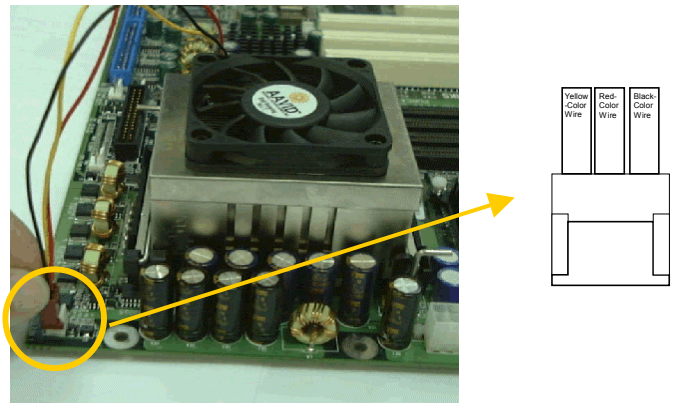
2. Mount the CPU heatsink with proper exproxy as shown below.



3. To secure CPU heatsink with the locks as the figures is shown below.



3. Plug the 3-wire fan power core into the connector named CPU FAN 1.

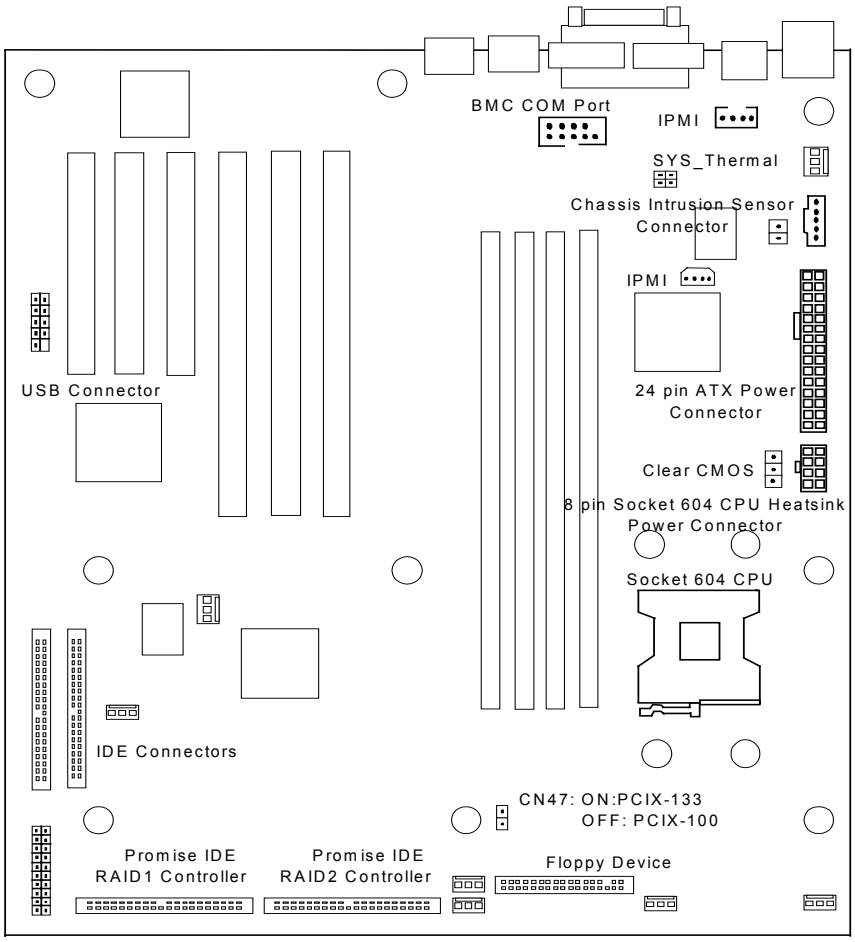


Step 4.

Attach Cable to Connectors

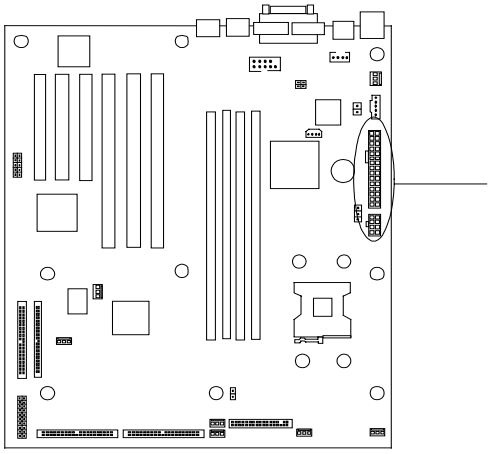
This step explains where each connector is inserted on the UPX. There will be a UPX layout picture following each explanation indicating where the connector is inserted. The motherboard connectors are:

Item	Connectors	Page
1	ATX Power Supply	1-10
2	Floppy Disk Drive Connector	1-10
3	Primary / Secondary IDE Connectors	1-11
4	Primary / Secondary IDE RAID Connectors	1-12
5	Reset Switch Header	1-13
6	SCSI Hard disk Activity LED Header	1-13
7	Hard Disk Activity LED Header	1-13
8	SPEAKER Header	1-13
9	ATX power switch/Soft Power Header	1-14
10	System Power LED Header	1-14
11	CPU and Aux Fan connectors	1-14
12	Wake-On-LAN Port	1-15
13	PS/2 Mouse Port	1-16
14	PS/2 Keyboard Port	1-16
15	USB (Universal Serial Bus) Ports	1-16
16	Parallel Port	1-17
17	Onboard LAN Connectors	1-17
18	USB Header	1-17
19	Serial Port COM1 Port	1-18
20	Chassis Intrusion Sensor Header	1-18
21	Thermal Header	1-18
22	BMC COM Port	1-18

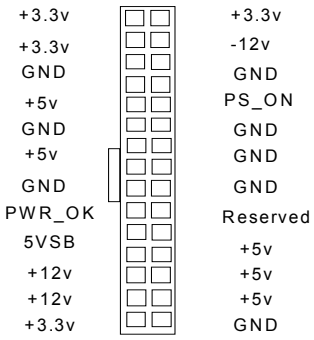

BMC COM Port
IPMI
SYS_Thermal
Chassis Intrusion Sensor Connector
IPMI
USB Connector
24 pin ATX Power Connector
Clear CMOS
8 pin Socket 604 CPU Heatsink Power Connector
Socket 604 CPU
IDE Connectors
CN47: ON:PCIX-133
OFF: PCIX-100
Promise IDE RAID1 Controller
Promise IDE RAID2 Controller
Floppy Device

1. ATX Power Supply (20-pin ATX power connectors)

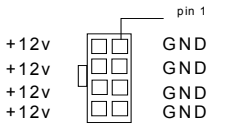
This connector connects to ATX power supply. Find the proper orientation and push down firmly to make sure that the pins are aligned. For Wake on LAN support, 5-volt Stand-by lead (+5VSB) from ATX power supply must supply at least 720mA.



UPX Power Connector



ATX Power Connector



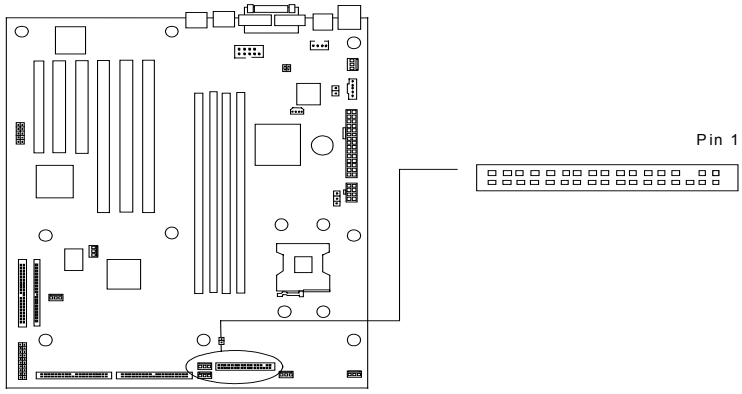
CPU Power Connector

IMPORTANT

- **IWILL always recommands our customers to use ATX Power that has more than 300W power capacity and is compatible with Intel ATX 2.03 specification.**

2. Floppy Disk Drive Connector (34-pin FLOPPY)

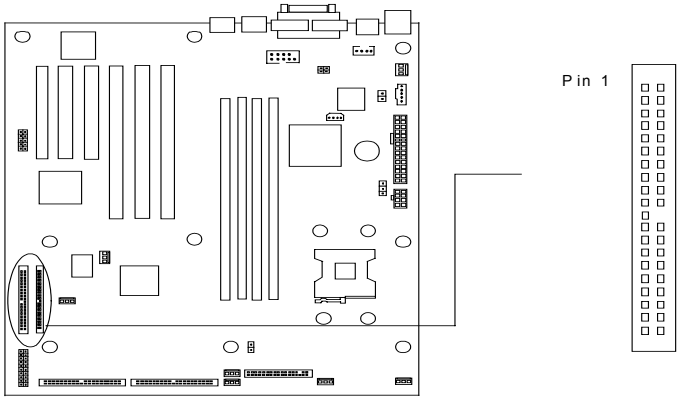
This connector supports the provided floppy disk drive ribbon cable. After connecting the single end to the board, connect the plug on the other end to the floppy drive.



UPX Floppy Connectors

3. Primary/Secondary IDE connectors (ATA-133 IDE connectors (Two 40-pin IDE)

The connectors support the provided 80-wire 40-pin IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk(s). If you install two hard disks in the same cable, you must configure the second drive to Slave mode by setting its jumper accordingly. Please refer to the documentation of your hard disk for the jumper settings. BIOS now support IDE HDD or IDE CD-ROM boot up (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged).



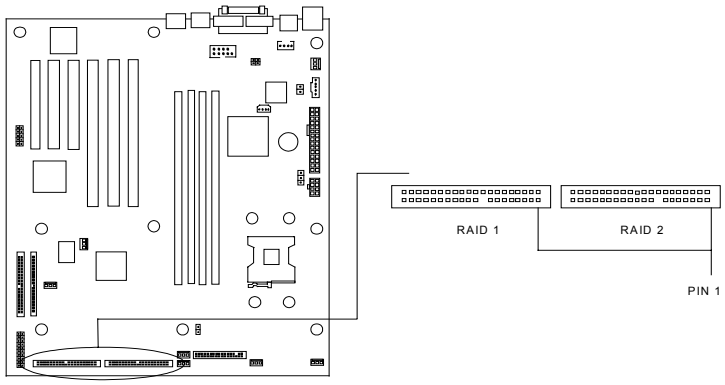
UPX IDE Connectors

IMPORTANT

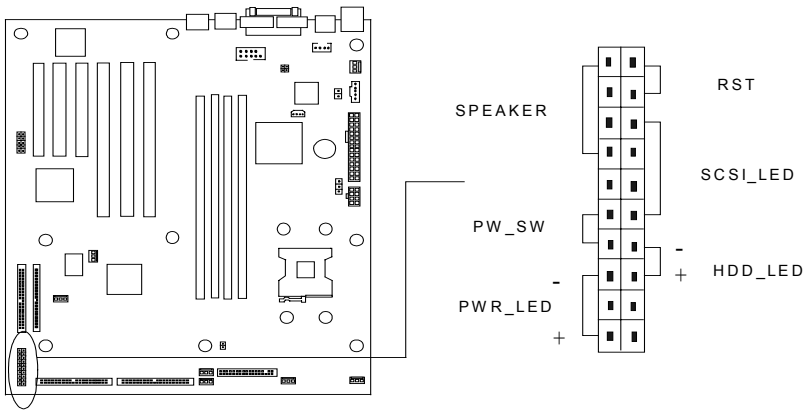
- **Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector. IDE ribbon cable must be less than 46cm (18inches), with the second drive connector no more than 15cm (6 inches) from the first connector**.
- **If you want to have ATA100/66 IDE performance, proper ATA100/66 is needed as 80-wire ATA100/66 cable is different from 40-wire ATA33 cable**

4. Primary/Secondary IDE RAID connectors (Two 40-pin IDE)

The connectors support the provided 80-wire 40-pin ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk(s). If you install two hard disks in the same cable, you must configure the second drive to Slave mode by setting its jumper accordingly. Please refer to the documentation of your hard disk for the jumper settings. Please also refer to the onboard RAID/LAN user's guide for detailed RAID installation.



UPX IDE RAID Connectors



UPX Front Panel Connectors

Figure 4-1

Item 4 through 10 are depicted in Figure 4-1 as above.

5. **Reset Switch Header (2-pin RST)**
   This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without turning off and on your power switch. This is a preferred method of rebooting to prolong the life of the system's power supply.

6. **SCSI Hard disk LED Card Activity LED Header (4-pin SCSI_HD)**
   The 4-pin connector can be connected to the 4-pin activity LED connector of SCSI card. Read and Write activities by devices connected to the SCSI card will cause the front panel LED to light up.

7. **Hard Disk Activity LED Header (2-pin HDD_LED)**
   This connector supplies power to the cabinet's hard disk or IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

8. **Speaker Header (4-pin SPEAKER)**
   There is one jumper cap over pin1 and pin2 (default setting) for internal

buzzer. If you want to use external case-mounted speaker instead of internal buzzer, remove jumper cap and connect speaker wire to the 4-pin connector.

9. ATX Power Switch / Soft Power Header (2-pin PWR_SW)

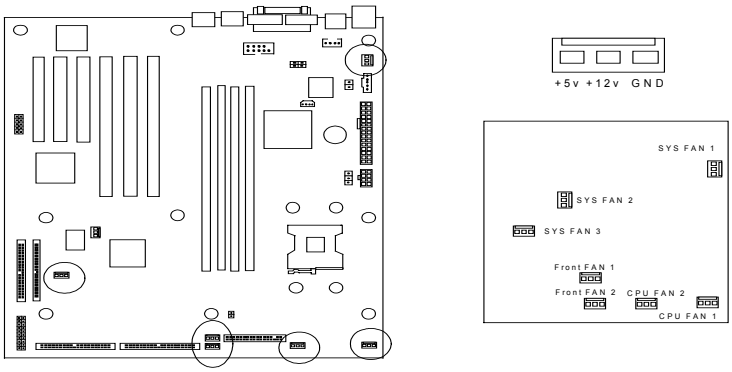
A momentary switch connected to these connector controls the system power. Pressing the button once it will switch the system between *ON* and *SLEEP.* The system power LED shows the status of the system's power.

10. System Power LED Header (3-pin PWR_LED)

This 3-pin connector connects the system power LED, which lights up when the system is powered on and blinks when it is in sleep mode.

11. CPU and Aux Fan Connectors (4 3-pin FAN connectors):

There are four 3-pin fan connectors in the UPX M/B. Two fans are used for CPU1 and CPU2 and two are for auxiliary power. These connectors support cooling fans of 500mA (6W) or less. Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of this connector.



UPX Fan Connectors

WARNING

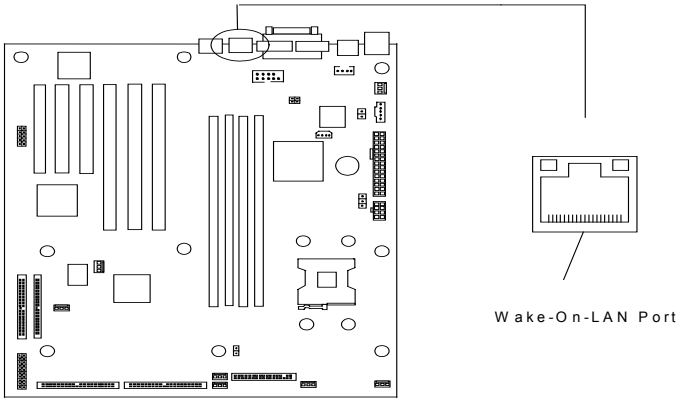
- **The CPU and/or motherboard will overheat if there is not enough airflow across the CPU and onboard heatsink. Damage may occur to the motherboard and/or the CPU fan if these pins are incorrectly used. These are not jumpers, do not place jumper caps over these pins.**

NOTE

- The “Rotation” signal has to be used with fan specially designed with rotation signal.
- Only the fan marked CPU fan1can be monitored by BIOS.

12. Wake-On-LAN Port (Onboard LAN Port)

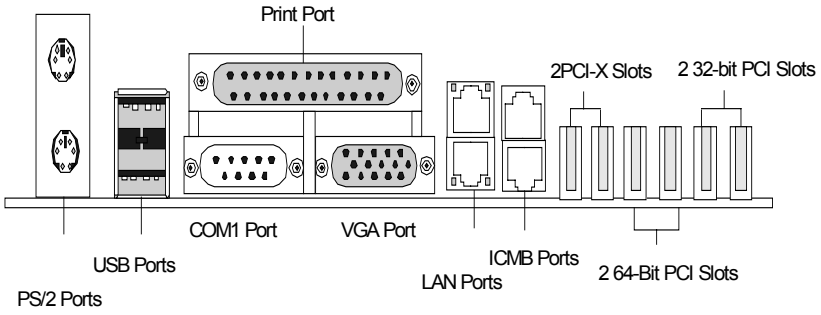
This connector connects to internal LAN cards with a Wake-On-LAN output. The connector powers up the system when a wakeup packet or signal is received through the LAN port.



UPX Wake On LAN

IMPORTANT

- **This feature requires that your system has an ATX power supply with at least 720mA +5VSB standby power.**



UPX I/O Connectors

Figure 4-2

Item 14 through 21 are depicted in Figure 4-2 as above.

13. PS/2 Mouse Port (6-pin Female)

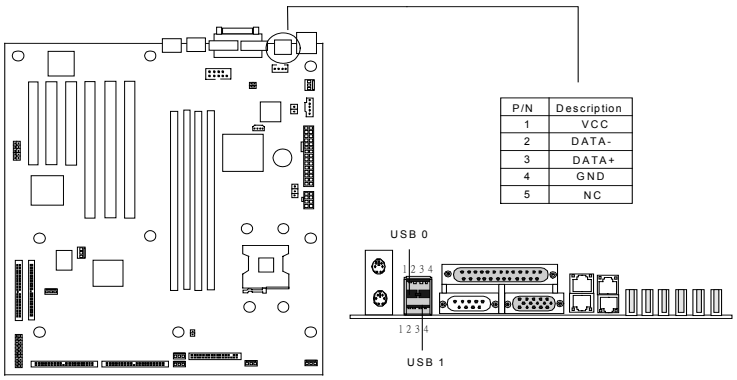
The system will direct IRQ12 to the PS/2 mouse if one is detected. If not detected, expansion cards can use IRQ12.

14. PS/2 Keyboard Port (6-pin Female)

This connection is for a standard keyboard using a PS/2 plug (mini DIN). This port will not allow standard AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.

15. Universal Serial BUS Ports I & 2 (4-pin Female)

Two external USB ports are available for connecting USB devices. But a user can only use two of them with proper cabling for connecting USB



UPX External USB Ports

16. Parallel Printer Port (25-pin Female)

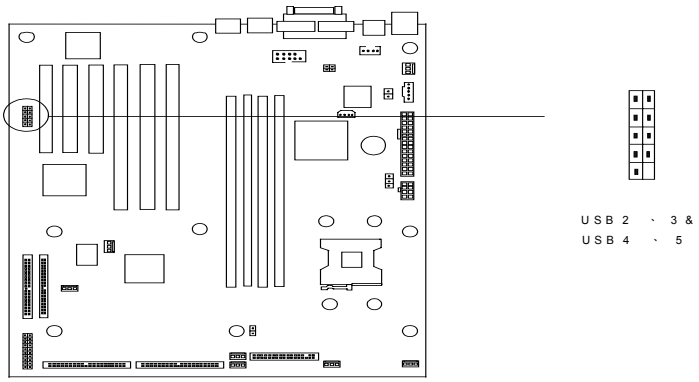
You can enable the parallel port and choose the IRQ through the BIOS Setup.

17. Onboard LAN Connectors

The RJ45 connector provides both 10Base-T and 100Base-TX connectivity. Please refer to the "UPX Onboard IDE RAID & LAN User 's Guide" (Optional) for further information.

18. USB Header (8-pin Male)

Two 8 pins external USB Ports are available for connecting USB devices.



UPX USB Header

19. Serial Port COM1 Connectors (9-pin Male)

The serial port COM1 can be used for pointing devices or other serial devices. See the BIOS Setup.

20. Thermal Header (2-pin Thermal)

This two-pin connector provides you to use the thermal sensor to detect the temperature of the components on motherboard

21. Chassis Intrusion Sensor Header (CHASSIS)

This connector is for a chassis intrusion monitor. The hardware monitor is triggered when chassis microswitch is opened. This occurs when the side panel is opened or drive bay doors are opened.

22. BMC COM Port (9 Pin Male)

Winbond 83910F BMC (Base-Board Management Controller) Onboard. User can monitor the computer, check the CPU temperaute、FAN speed And other device status. If the device status is not normal, user can Change the setting of the device.

Step 5.

Install Expansion Cards

WARNING

- **Power off your power supply completely when adding removing any expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards**.

1. Expansion Card Installation Procedure

1.1 Read the documentation for your expansion card and make any necessary hardware or software setting changes, such as jumpers.

1.2 Remove the bracket plate on the slot you intend to use. Keep the bracket for possible future use.

1.3 Carefully align the card's connectors and press firmly.

1.4 Secure the card on the slot with the screw you removed above.

1.5 Jump to step 6 to finish installation, then set the IRQ and DMA as follows.

2. Assigning IRQs for PCI Expansion Cards

An IRQ number is automatically assigned to PCI expansion cards. In the PCI bus design, the BIOS automatically assigns an IRQ to a PCI slot that contains a card requiring an IRQ. To install a PCI card, you need to set the INT (interrupt) assignment. Since all the PCI slots on this motherboard use an INTA #, set the jumpers on your PCI cards to INTA.

Step 6.

Powering on Your Computer

1. Be sure that all switches are off (in some systems, marked with “O”).

2. After finishing all jumper settings and connections, close the system case cover.

3. Connect the power supply cord into the power supply located on the back of your system case.

4. Connect the power cord into a power outlet that is equipped with a surge protector.

5. You may then turn on your devices in the following order:
   - Your monitor
   - External SCSI devices (starting with the last device on the chain)
   - Your system power.

   For ATX power supplies, you need to switch on the power supply as well as press the ATX power switch on the front of the case.

6. The power LED on the front panel of the system case will light up. For ATX power supplies, the system LED will light up when the ATX power switch is pressed. The monitor LED may light up after the system’s LED if it complies with “green” standards or if it has a power standby feature. The system will then run power-on tests. While the tests are running, additional messages will appear on the screen. **If you do not see anything within 30 seconds from the time you turn on the power, the system may have failed a power-on test.** Recheck your jumper settings and connections or call your retailer for assistance.

7. During power-on, hold down <F2> to enter BIOS setup. Follow the instructions in the next chapter, BIOS Setup.

Note

- **Powering Off your computer**
  You have to first exit or shut down your operating system before switching off the power switch. For ATX power supplies, you can press the ATX power switch after exiting or shutting down your operating system.

Chapter 2

BIOS Setup

This chapter discusses the PhoenixBIOS Setup program built into the ROM BIOS. The Setup program allows users modifying the basic system configurations according to their requirements. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The PhoenixBIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The PhoenixBIOS has been customized by adding important, but non-standard, features such as password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.
The rest of this chapter is intended to guide you through the process of configuring your system using Setup.

Starting BIOS Setup

The PhoenixBIOS is immediately activated when you power on the computer every time. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. After finishing configuring the whole system, then BIOS will continue to seek an operating system on one of the disks, launch then turn control over to the operating system.
While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing the <F2> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self-Test).

Press F2 to enter SETUP.

If the message disappears before you respond and you still wish to enter Setup Program, restart the system from state “On” to state “Off” by pressing the "RESET" button on the system case. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot as well, an error message will be displayed and you will again be asked to...

PRESS F1 TO CONTINUE, F2 TO ENTER SETUP

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, press <Esc> to quit. The following table provides more details about how to navigate in the Setup program using the keyboard.

Key	Function
Up Arrow (↑) Key	Move to the previous item
Down Arrow (↓) Key	Move to the next item
Left Arrow (←) Key	Move to the previous item
Right Arrow (→) Key	Move to the next item
Esc key	In the Sub-menu: Exit the sub-menu. In the BIOS main category: Quit Without saving changes.
Enter Key	Select the item. A pop-up selection will display on the screen and allows to set the item value.
PgUp Key	Increase the numeric value or make change
PgDn Key	Decrease the numeric value or make change
+ Key	Increase the numeric value or make change
- Key	Decrease the numeric value or make change
F1 Key	General Help on Setup navigation keys. Press <F1> key to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <ESC> key or <F1> key again.
F9 Key	Setup Defaults
F10 key	Save configuration and exit the BIOS Setup Utility

Table 1 Legend Keys

Navigating through the menu bar

Use the left and right arrow keys to navigate the menu you want to be in.

To display a sub menu

Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A "➢" pointer marks all sub menus.

In Case of Problems

If after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the *Phoenix*BIOS supports an override to the CMOS setting, which resets your system to its defaults. The other way is clear the present CMOS information. (Refer to the jumper setting.)
The best advice is to only alter settings, which you thoroughly understand. In the end , we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both *Phoenix*BIOS to provide the maximum performance and reliability of the system. Even a slight change to the chipset setup may also cause potential and unpredictable failure to the system.

Section 1

Main Menu

To start the ***Phoenix*BIOS** Setup utility:

Step 1: Turn on or reboot your system.PhoenixBIOS displays this message:

Press <F2> to enter SETUP

Step 2: Pressing <F2> displays the Main Menu, which looks like this:

PhoenixBIOS Setup Utility

Main	Advanced	Security	Power	Boot	Exit

	Item Specific Help
System Time [16:19:20] System Date: [03/02/1994] Legacy Diskette A: [1.44/1.25 MB 3½"] ▸ Primary Master 6449 MB ▸ Primary Slave None ▸ Secondary Master CD-ROM ▸ Secondary Slave None System Memory 640 KB Extended Memory 31744 KB Language [English (US)]	<Tab>, <Shift-Tab>, or <Enter> selects field

F1 Help	↑↓ Select Item	-/+ Change Values	F9 Setup Defaults	
ESC Exit	←Select Menu	Enter Select	▸ Sub-Menu	F10 Save and Exit

Step 3 : for a description of the fields on this menu.

◆ The Menu Bar

The Menu Bar at the top of the window lists these selections:

Key	Function
<F1> or <Alt-H>	General Help window (See below).
<Esc>	Exit this menu.
arrow keys	Select a different menu.
↑ or ↓ arrow keys	Move cursor up and down.
<Tab> or <Shift-Tab>	Cycle cursor up and down.
<Home> or <End>	Move cursor to top or bottom of window.
<PgUp> or <PgDn>	Move cursor to next or previous page.
<F5> or <->	Select the Previous Value for the field.
<F6> or <+> or <Space>	Select the Next Value for the field.
<F9>	Load the Default Configuration values for this menu.
<F10>	Save and exit.
<Enter>	Execute Command or Select *P* Submenu.
<Alt-R>	Refresh screen.

Use the left and right arrow keys to make a selection.
See the section below, "Exiting Setup," for a description on exiting the Main Menu.

◆ The Legend Bar

Use the keys listed in the legend bar on the bottom to make your selections or exit the current menu. The chart on the following page describes the legend keys and their alternates:

Key	Function
<F1> or <Alt-H>	General Help window (See below).
<Esc>	Exit this menu.
arrow keys	Select a different menu.
↑ or ↓ arrow keys	Move cursor up and down.
<Tab> or <Shift-Tab>	Cycle cursor up and down.
<Home> or <End>	Move cursor to top or bottom of window.
<PgUp> or <PgDn>	Move cursor to next or previous page.
<F5> or <->	Select the Previous Value for the field.
<F6> or <+> or <Space>	Select the Next Value for the field.
<F9>	Load the Default Configuration values for this menu.
<F10>	Save and exit.
<Enter>	Execute Command or Select *P* Submenu.
<Alt-R>	Refresh screen.

To select an item, use the arrow keys to move the cursor to the field you want. Then use the plus-and-minus value keys to select a value for that field. The Save Values commands in the Exit Menu save the values currently displayed in all the menus.

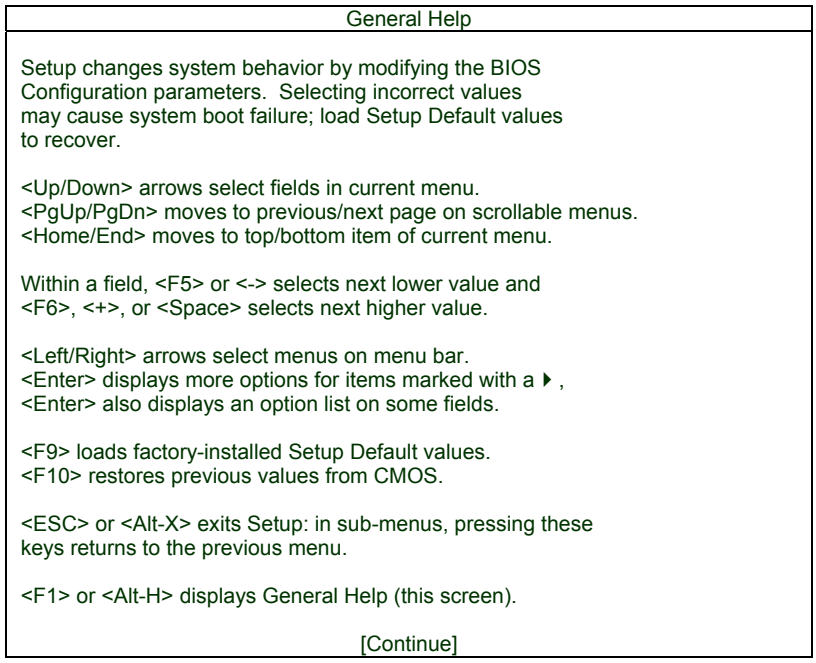
To display a sub menu, use the arrow keys to move the cursor to the sub menu you want. Then press **<Enter>**. A pointer (▸) marks all sub menus.

The Field Help Window

The help window on the right side of each menu displays the help text for the currently selected field. It updates as you move the cursor to each field.

◆ The General Help Window

Pressing **<F1>** or **<Alt-H>** on any menu brings up the General Help window that describes the legend keys and their alternates:



The scroll bar on the right of any window indicates that there is more than one page of information in the window. Use **<PgUp>** and **<PgDn>** to display all the pages. Pressing **<Home>** and **<End>** displays the first and last page. Pressing **<Enter>** displays each page and then exits the window.
Press **<Esc>** to exit the current window.

◆ Main Menu Selections

You can make the following selections on the Main Menu itself. Use the sub menus for other selections.

Feature	Options	Description
System Time	HH:MM:SS	Set the system time.
System Date	MM/DD/YYYY	Set the system date.
Diskette 1	360 kB, 5 ¼" 1.2 MB, 5 ¼" 720 kB, 3 ½" 1.44/1.25 MB, 3 ½" 2.88 MB, 3 ½" Not installed Disabled	Select the type of floppy-disk drive installed in your system. 1.25 MB is a Japanese media format that requires a 3½" 3-Mode Diskette drive.
System Memory	N/A	Displays amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.

You can set the boot sequence of the bootable drives by selecting **Boot Sequence** on the Main Menu or opening the **Boot Menu**.

▪ Master and Slave Sub-Menus

The **Master** and **Slave** sub-menus accessed from the Main Menu control these types of devices:

- Hard-disk drives
- Removable-disk drives such as Zip drives
- CD-ROM drives

*Phoenix*BIOS 4.0 supports up to two **IDE disk adapters**, called **primary** and **secondary** adapters. Each adapter supports one **master drive** and one optional **slave drive** in these possible combinations:

- 1 Master
- 1 Master, 1 Slave
- 2 Masters
- 2 Masters, 1 Slave
- 2 Masters, 2 Slaves

There is one IDE connector for each adapter on your machine, usually labeled "Primary IDE" and "Secondary IDE." There are usually two connectors on each ribbon cable attached to each IDE connector. When you have connected two drives to these connectors, the one on the end of the cable is the Master. If you need to change your drive settings, selecting one of the Master or Slave drives on the Main Menu displays a sub-menu like this:

PhoenixBIOS Setup Utility **Main**		
Primary Master		Item Specific Help
Type: [**Auto**]		Select the drive type of the fixed disk installed in your system. If type User is selected, Cylinders, Heads, and Sectors can be edited directly. Auto attempts to automatically detect the drive type for drives that comply with ANSI specifications.
Multi Sector Transfer ; [Disable] LBA Mode Control: [Disable] 32-bit I/O: [Disable] Transfer Mode: [Auto] Ultra DMA Mode: [Disable]		
F1 Help ↑↓ Select Item	-/+ Change Values	F9 Setup Defaults
ESC Exit ←Select Menu	Enter Select ▸ Sub-Menu	F10 Save and Exit

Use the legend keys listed on the bottom to make your selections and exit to the Main Menu. Use the following chart to configure the hard disk.

Feature	Options	Description
Type	None 1 to 39 User Auto IDE Removable CD-ROM ATAPI Removable	None = Autotyping is not able to supply the drive type or end user has selected None, disabling any drive that may be installed. User = You supply the hard-disk drive information in the following fields. Auto = Autotyping, the drive itself supplies the correct drive information. IDE Removable = Removable read-and-write media (e.g., IDE Zip drive). CD-ROM = Readable CD-ROM drive. ATAPI Removable = Read-and-writea media (e.g., LS120, USB Floppy, USB Zip).
Multi-Sector Transfers	Disabled Standard 2 sectors 4 sectors 8 sectors 16 sectors	Any selection except Disabled determines the number of sectors transferred per block. Standard is 1 sector per block.
LBA Mode Control	Enabled Disabled	Enabling LBA causes Logical Block Addressing to be used in place of Cylinders, Heads, & Sectors.
32-Bit I/O	Enabled Disabled	Enables 32-bit communication between CPU and IDE card. Requires PCI or local bus.
Transfer Mode	Standard Fast PIO 1 Fast PIO 2 Fast PIO 3 Fast PIO 4	Selects the method for transferring the data between the hard disk and system memory. The Setup menu only lists those options supported by the drive and platform.
Ultra DMA Mode	Enabled Disabled	User can change the mode from Disabled to Enabled to riser the data performance.

* IDE drives do not require setting Landing Zone and Write Precomp.

When you enter Setup, the Main Menu usually displays the results of **Autotyping–** information each drive provides about its own parameters (e.g., cylinders, heads, and sectors)–and how the drives are arranged as Masters or Slaves on your machine.

Some older drives, however, do not use Autotyping and require selecting type User and entering a pre-defined fixed-disk type value or specifying the drive parameters separately with the User type selected. You can find the correct parameters for hard-disk drives in the drive manual or written on the casing of the drive itself.

Note

Before changing the contents of this menu, write them down**. Once you have established correct parameters for your drive,** write them down and store them in a safe place **(e.g., tape them to the disk drive) for use in case these values are lost in CMOS or if autotyping fails. If these hard-disk parameters are not correctly entered in CMOS, you cannot access the data on your drive.**

WARNING

Incorrect settings can cause your system to malfunction. To correct mistakes, return to Setup and restore the Setup Defaults with <F9> and re-enter the correct drive parameters.

Section 2

Advanced Menu

Selecting "Advanced" from menu bar on the Main Menu displays a menu like this:

PhoenixBIOS Setup Utility					
Main	**Advanced**	Security	Power	Boot	Exit

	Item Specific Help
▸ Advanced Chipset Control ▸ Advanced Processor Options ▸ Cache Memory ▸ I/O Device Configuration	
Reset Configuration Data: [No] Large Disk Access Mode: [DOS] Local Bus IDE adapter: [Both] PS/2 Mouse [Auto Detect] Secured Setup Configurations [No] Multiprocessor Specification [1.4]	
USB Host Controller: [Enabled] USB BIOS Legacy Support: [Enabled]	

F1 Help	↕ Select Item	-/+ Change Values		F9 Setup Defaults
ESC Exit	↔ Select Menu	Enter Select	▸ Sub-Menu	F10 Save and Exit

WARNING

Incorrect settings can cause your system to malfunction. To correct mistakes, return to Setup and restore the Setup Defaults with <F9>.

◆ Advanced Chipset Control

In a system, user can selecting "Advanced Chipset Control" from menu bar on the advanced menu displays a menu like this:

PhoenixBIOS Setup Utility **Advanced**		
Advanced Chipset Control		Item Specific Help
On Board LAN No.1:	[Enabled]	
On Board LAN No.2:	[Enabled]	Controls system memory parity through the chipset.
On Board RAID:	[Enabled]	
ECC Config:	[Enabled]	
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit		

Note

The contents of this menu depend on the chipset installed on your motherboard, and chipsets vary widely. Consult your dealer or the chipset manual before changing the items on this menu. Incorrect settings can cause your system to malfunction.

To change a device's priority on the list, first select it with the up-or-down arrows, and move it up or down using the <+> and <-> keys. Pressing <n> moves a device between the Removable Devices and Hard Drive. Pressing <Shift+1> enables or disables a device.

◆ Advanced Processor Options

In a system, user can selecting "Advanced Processor Options" from menu bar on the Advanced menu displays a menu like this:

PhoenixBIOS Setup Utility **Advanced**		
Advanced Processor Options		Item Specific Help
Frequency Ratio		
Jackson Technology	[Disabled]	Select the internal frequency multiplier of the CPU.
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit		

◆ Cache Memory

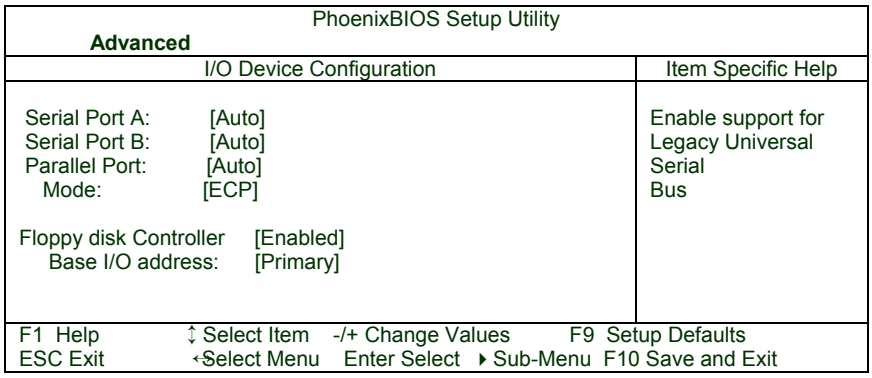
PhoenixBIOS Setup Utility **Advanced**		
Cache Memory		Item Specific Help
Memory Cache:	[Enabled]	
Cache System BIOS area:	[Write Protect]	Select the internal frequency multiplier of the CPU.
Cache Video BIOS area:	[Write Protect]	
Cache base 0-512 k :	[Write Black]	
Cache base 512 k-640 k :	[Write Black]	
Cache Extended Memory Area:	[Write Black]	
Cache A000 – AFFF:	[Disabled]	
Cache B000 – BFFF:	[Disabled]	
Cache C800 – CBFF:	[Disabled]	
Cache CC00 – CFFF:	[Disabled]	
Cache C000 – CFFF:	[Disabled]	
Cache D000 – D3FF:	[Disabled]	
Cache D400 – D7FF:	[Disabled]	
Cache D800 – DBFF:	[Disabled]	
Cache DC00 – DFFF:	[Disabled]	
Cache E000 – E3FF:	[Disabled]	
Cache E400 – E7FF:	[Disabled]	
Cache E800 – EBFF:	[Disabled]	
Cache EC00 – EFFF:	[Disabled]	
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit		

♦ I/O Device Configuration Menu

The CPU communicates with external devices such as printers through devices called **Input/Output (I/O) ports** such as serial and parallel ports. These I/O devices require the use of system resources such as I/O addresses and interrupt lines. If these devices are Plug and Play, either the BIOS can allocate the devices during POST, or the operating system can do it. If the I/O devices are not Plug and Play, they may require manually setting them in Setup.

On some systems, the **chipset** manages the communication devices. Other systems have, instead, a separate **I/O chip** on the motherboard for configuring and managing these devices.

Many systems allow you to control the configuration settings for the I/O ports. Select "I/O Device Configuration" on the Advanced Menu to display this menu and specify how you want to configure these I/O Devices:


PhoenixBIOS Setup Utility
Advanced
I/O Device Configuration
Item Specific Help
Serial Port A: [Auto]
Serial Port B: [Auto]
Parallel Port: [Auto]
Mode: [ECP]
Floppy disk Controller [Enabled]
Base I/O address: [Primary]
Enable support for Legacy Universal Serial Bus
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

Use the legend keys to make your selections and exit to the Main Menu.

Feature	Options	Description

Serial port A: Serial port B:	Disabled Enabled Auto OS Controlled	Disabled turns off the port. Enabled requires you to enter the base Input/Output address and the Interrupt number on the next line. Auto makes the BIOS configure the port automatically during POST. OS Controlled lets the PnP Operating System (such as Windows 95) configure the port after POST.
Base I/O	3F8, IRQ 4	If you select Enabled, choose one of these combinations.
Parallel Port:	Disabled Enabled Auto OS Controlled	Disabled turns off the port. Enabled requires you to enter the base Input/Output address and the Interrupt number below. Auto makes the BIOS auto configure the port during POST. OS Controlled lets the PnP Operating System (such as Windows 95) configure the port after POST.
Mode	Output only Bi-directional	Output only is standard one-way protocol for a parallel device. Bi-directional uses two-way protocol of an Extended Capabilities Port (ECP).
Floppy disk Controller	Disabled Enabled	Enables the on-board legacy diskette controller. Disabled turns off all legacy diskette drives.

Use this menu to specify how the I/O (Input and Output) ports are configured:

- Manually by you.
- Automatically by the BIOS during POST (See "ROM BIOS Functions" on page)
- Automatically by a PnP Operating System such as Windows

95 after the Operating System boots.

Warning

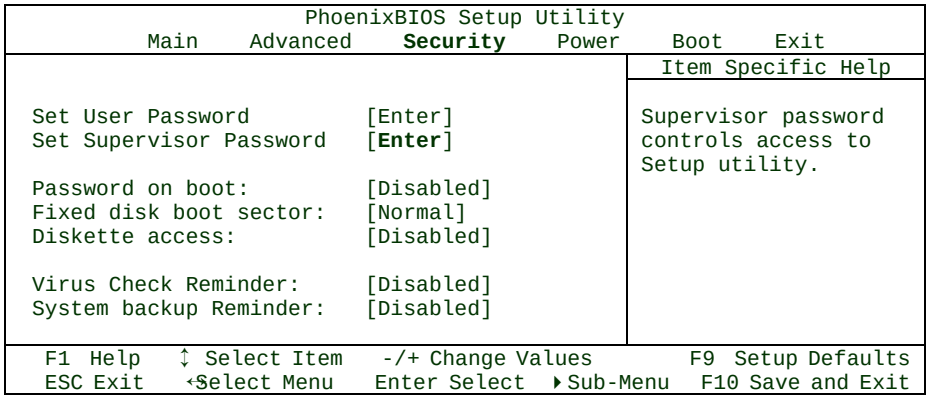
If you choose the same I/O address or Interrupt for more than one port, the menu displays an asterisk (*) at the conflicting settings. It also displays this message at the bottom of the menu:

*Indicates a DMA, Interrupt, I/O, or memory resource conflict with another device. Resolve the conflict by selecting another settings for the devices.

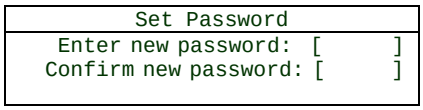
Section 3

Security Menu

Selecting "Security" from the Main Menu displays a menu like this:


PhoenixBIOS Setup Utility
Main Advanced Security Power Boot Exit
Item Specific Help
Set User Password [Enter]
Set Supervisor Password [Enter]
Supervisor password controls access to Setup utility.
Password on boot: [Disabled]
Fixed disk boot sector: [Normal]
Diskette access: [Disabled]
Virus Check Reminder: [Disabled]
System backup Reminder: [Disabled]
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

Use the legend keys to make your selections and exit to the Main Menu.
Enabling "Supervisor Password" requires a password for entering Setup. The passwords are not case sensitive.
Pressing <Enter> at either Set Supervisor Password or Set User Password displays a dialog box like this:



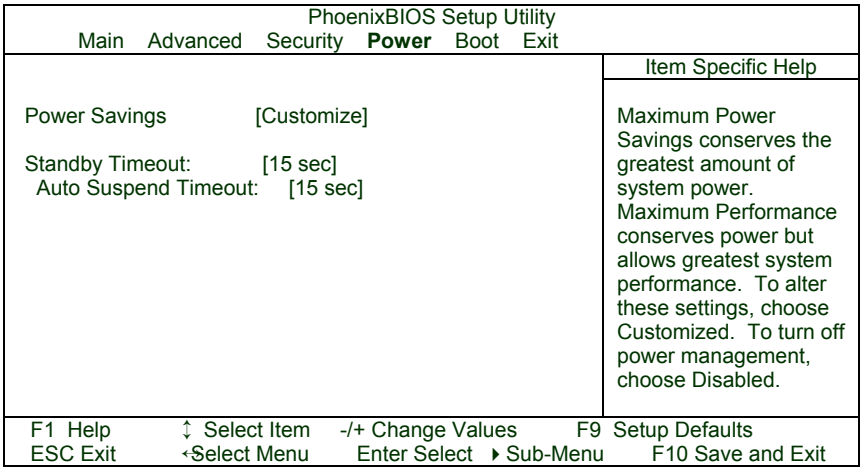
Type the password and press <Enter>. Repeat.

Feature	Options	Description
Set User Password	Up to seven alphanumeric characters	Pressing <Enter> displays the dialog box for entering the user password. In related systems, this password gives restricted access to SETUP menus.
Set Supervisor Password	Up to seven alphanumeric characters	Pressing <Enter> displays dialog box for entering the supervisor password. In related systems, this password gives full access to Setup menus.
Password on boot	Enabled Disabled	Enabled requires a password on boot. Requires prior setting of the Supervisor password. If supervisor password is set and this option disabled, BIOS assumes user is booting.
Diskette access	Enabled Disabled	Enabled requires a password to boot from or access the floppy disk.
Fixed disk boot sector	Normal Write Protect	Write protects the boot sector on the hard disk for virus protection. Requires a password to format or Fdisk the hard disk.
System backup reminder Virus check reminder	Disabled Daily Weekly Monthly	Displays a message during boot up asking (Y/N) if you have backed up the system or scanned it for viruses. Message returns on each boot until you respond with "Y". Daily displays the message on the first boot of the day, Weekly on the first boot after Sunday, and Monthly on the first boot of the month.

Section 4

Power Menu

Selecting "Power" from the menu bar displays a menu like this:


PhoenixBIOS Setup Utility
Main Advanced Security Power Boot Exit
Item Specific Help
Power Savings [Customize]
Standby Timeout: [15 sec]
Auto Suspend Timeout: [15 sec]
Maximum Power Savings conserves the greatest amount of system power. Maximum Performance conserves power but allows greatest system performance. To alter these settings, choose Customized. To turn off power management, choose Disabled.
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

Use this menu to specify your settings for Power Management. Remember that the options available depend upon the hardware installed in your system. Those shown here are from a typical system.

A power-management system reduces the amount of energy used after specified periods of inactivity. The Setup menu pictured here supports a **Full On** state, a **Standby** state with partial power reduction, and a **Suspend** state with full power reduction.

Use the Advanced Options on this menu to specify whether or not the activity of interrupts can terminate a Standby or Suspend state and restore Full On. Do not change these settings without knowing which devices use the interrupts.

Use the legend keys to make your selections and exit to the Main Menu. Use

the following chart in making your selections:

Feature	Options	Description
Power Saving	Disabled Customize Maximum Power Savings Maximum Performance	Maximum options: pre-defined values. Select Customize to make your own selections from the following fields. Disabled turns off all power management.
Standby Timeout	Off 1 min 2 min 4 min 6 min 8 min 12 min 16 min	Inactivity period required to put system in Standby (partial power shutdown).
Auto Suspend Timeout	Disabled 5 min 10 min 15 min 20 min 30 min 40 min 60 min	Inactivity period required after Standby to Suspend (maximum power shutdown).

Section 5

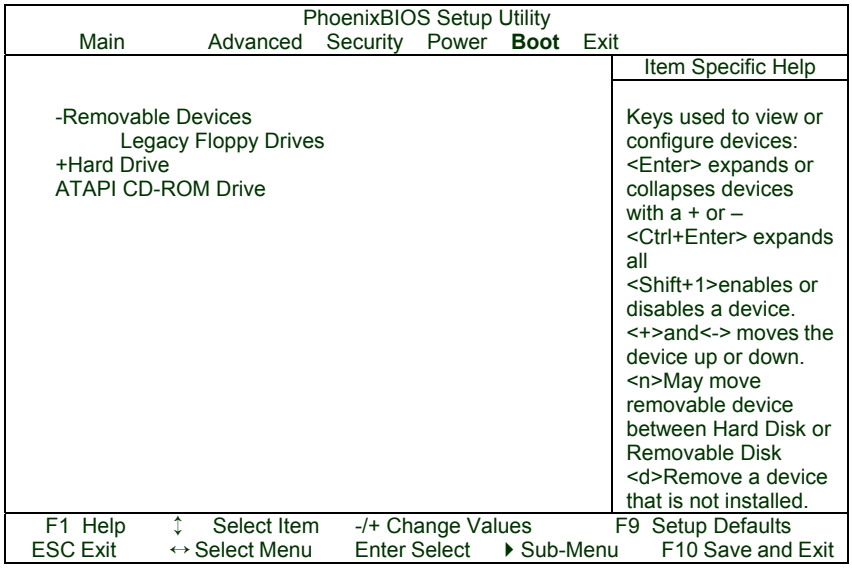
Boot Menu

After you turn on your computer, it will attempt to load the operating system (such as Windows 98) from the device of your choice. If it cannot find the operating system on that device, it will attempt to load it from one or more other devices in the order specified in the Boot Menu. Boot devices (i.e., with access to an operating system) can include: hard drives, floppy drives, CD ROMs, removable devices (e.g., Iomega Zip drives), and network cards.

Note

Specifying any device as a boot device on the Boot Menu requires the availability of an operating system on that device. Most PCs come with an operating system already installed on hard-drive C:\ .

Selecting "Boot" from the Menu Bar displays the Boot menu, which looks like this:


PhoenixBIOS Setup Utility
Main Advanced Security Power Boot Exit
Item Specific Help
-Removable Devices
Legacy Floppy Drives
+Hard Drive
ATAPI CD-ROM Drive
Keys used to view or configure devices:
<Enter> expands or collapses devices with a + or –
<Ctrl+Enter> expands all
<Shift+1>enables or disables a device.
<+>and<-> moves the device up or down.
<n>May move removable device between Hard Disk or Removable Disk
<d>Remove a device that is not installed.
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

Use this menu to arrange to specify the priority of the devices from which the BIOS will attempt to boot the Operating System. In the example above, the BIOS will attempt first to boot from the CD-ROM drive (the only Removable Device listed). Failing that, it will attempt to boot from the Primary Master hard disk, and so on down the list.

Removable Devices, **Hard Drive**, and **Network Boot** are the generic types of devices on your system from which you can boot an operating system. You may have more than one device of each type. If so, the generic type is marked with a plus or minus sign. Use the <Enter> key to expand or collapse the devices marked with <+> or <->. Press <Ctrl+Enter> to expand all such devices.

Note

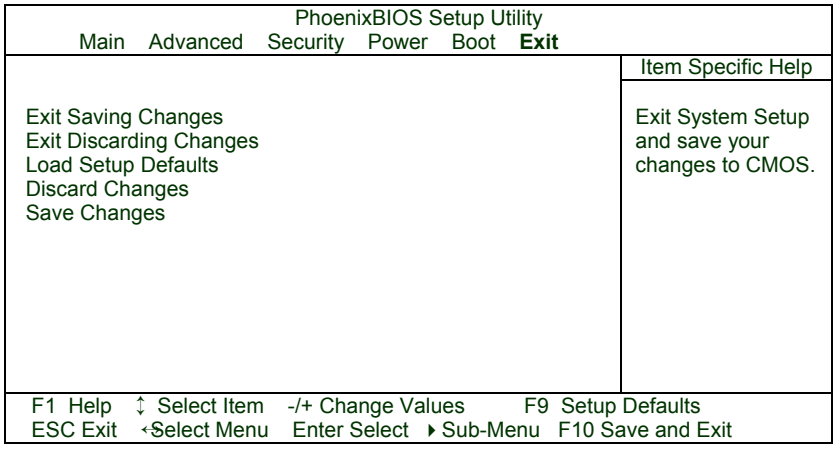
Floppy drives are not managed on this menu as part of Removable Devices.

To change a device's priority on the list, first select it with the up-or-down arrows, and move it up or down using the <+> and <-> keys. Pressing <n> moves a device between the Removable Devices and Hard Drive. Pressing <Shift+1> enables or disables a device.

Section 6

Exit Menu

Selecting "Exit" from the menu bar displays this menu:


PhoenixBIOS Setup Utility
Main Advanced Security Power Boot Exit
Item Specific Help
Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes
Exit System Setup and save your changes to CMOS.
F1 Help ↕ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

The following sections describe each of the options on this menu. Note that <Esc> does not exit this menu. You must select one of the items from the menu or menu bar to exit.

◆ Saving Values

After making your selections on the Setup menus, always select either "Saving Values" or "Save Changes." Both procedures store the selections displayed in the menus in **CMOS** (short for "battery-backed CMOS RAM") a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS.

After you save your selections, the program displays this message:

```
Values have been saved to CMOS!
Press <space> to continue
```

If you attempt to exit without saving, the program asks if you want to save before exiting.
During boot up, *Phoenix*BIOS attempts to load the values saved in CMOS. If those values cause the system boot to fail, reboot and press **<F2>** to enter Setup. In Setup, you can get the Default Values (as described below) or try to change the selections that caused the boot to fail.

◆ Exit Discarding Changes

Use this option to exit Setup without storing in CMOS any new selections you may have made. The selections previously in effect remain in effect.

◆ Load Setup Defaults

To display the default values for all the Setup menus, select "Load Setup Defaults" from the Main Menu. The program displays this message:

ROM Default values have been loaded!
Press <space> to continue

If, during boot up, the BIOS program detects a problem in the integrity of values stored in CMOS, it displays these messages:

System CMOS checksum bad - run SETUP
Press <F1> to resume, <F2> to Setup

The CMOS values have been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS.
Press **<F1>** to resume the boot or **<F2>** to run Setup with the ROM default values already loaded into the menus. You can make other changes before saving the values to CMOS.

◆ Discard Changes

If, during a Setup Session, you change your mind about changes you have made and have not yet saved the values to CMOS, you can restore the values you previously saved to CMOS.
Selecting “Discard Changes” on the Exit menu updates all the selections and displays this message:

CMOS values have been loaded!
Press <space> to continue

◆ Save Changes

Selecting “Save Changes” saves all the selections without exiting Setup. You can return to the other menus if you want to review and change your selections.

Chapter 3.1

BIOS Boot Utility

Phoenix Boot Utilities are:

- Phoenix QuietBoot™
- Phoenix MultiBoot™

Phoenix QuietBoot displays a graphic illustration rather than the traditional POST messages while keeping you informed of diagnostic problems.
Phoenix MultiBoot is a boot screen that displays a selection of boot devices from which you can boot your operating system.

Phoenix QuietBoot

Right after you turn on or reset the computer, **Phoenix QuietBoot** displays the QuietBoot Screen, a graphic illustration created by the computer manufacturer instead of the text-based POST screen, which displays a number of PC diagnostic messages.
To exit the QuietBoot screen and run Setup, display the MultiBoot menu, or simply display the PC diagnostic messages, you can simply press one of the hot keys described below.
The QuietBoot Screen stays up until just before the operating system loads unless:

1. Press <Esc> to display the POST screen.
2. Press <F2> to enter Setup.
3. POST issues an error message.
4. The BIOS or an option ROM requests keyboard input.

The following explains each of these situations.

◆ Press <ESC>

Pressing <Esc> switches to the POST screen and takes one of two actions:

1. If MultiBoot is installed, the boot process continues with the POST screen until the end of POST, and then displays the **Boot First Menu**, text-based with these options:
   A: Load the operating system from a boot device of your choice.
   B: Enter Setup.
   C: Exit the Boot First Menu (with <Esc>) and load the operating system from the boot devices in the order specified in Setup.
2. If MultiBoot is not installed, the boot process continues as usual.

◆ Press <F2>

Pressing <F2> at any time during POST switches to the POST screen (if not already displayed) and enters Setup.

◆ POST Error

Whenever POST detects a non-fatal error, QuietBoot switches to the POST screen and displays the errors. It then displays this message:

Press <F1> to resume, <F2> to Setup

Press <F1> to continue with the boot. Press <F2> if you want to correct the error in Setup.

◆ Keyboard Input Request

If the BIOS or an **Option ROM** (add-on card) requests keyboard input, QuietBoot switches over to the POST screen and the Option ROM displays prompts for entering the information. POST continues from there with the regular POST screen.

Phoenix MultiBoot

Phoenix MultiBoot expands your boot options by letting you choose your boot device, which could be a hard disk, floppy disk, or CD ROM. You can select

your boot device in Setup, or you can choose a different device each time you boot during POST by selecting your boot device in **The Boot First Menu**.
MultiBoot consists of:

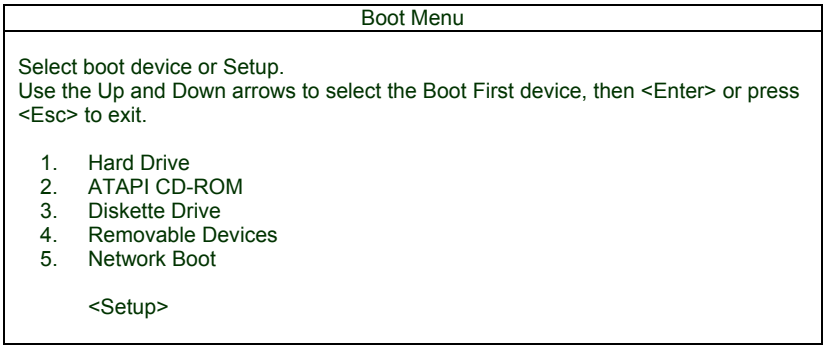
- The Setup Boot Menu
- The Boot First Menu

See the Setup Boot menu on p. 13. The following describes the Boot First Menu.

◆ The Boot First Menu

Display the Boot First Menu by pressing <Esc> during POST. In response, the BIOS first displays the message, "Entering Boot Menu ..." and then displays the Boot Menu at the end of POST. Use the menu to select any of these options:

1. Override the existing boot sequence (for this boot only) by selecting another boot device. If the specified device does not load the operating system, the BIOS reverts to the previous boot sequence.
2. Enter Setup.
3. Press <Esc> to continue with the existing boot sequence.


Boot Menu
Select boot device or Setup.
Use the Up and Down arrows to select the Boot First device, then <Enter> or press <Esc> to exit.
1. Hard Drive
2. ATAPI CD-ROM
3. Diskette Drive
4. Removable Devices
5. Network Boot
<Setup>

If there is more than one bootable hard drive, the first one in the Setup Boot menu is the one represented here.

Chapter 3 .2

BIOS Flash Upgrade Utility

Phoenix Phlash gives you the ability to update your BIOS from a floppy disk without having to install a new ROM BIOS chip.
Phoenix Phlash is a utility for "flashing" (copying) a BIOS to the Flash ROM installed on your computer from a floppy disk. A Flash ROM is a Read-Only Memory chip that you can write to using a special method called "flashing." Use Phoenix Phlash for the following tasks:

Update the current BIOS with a new version.

Restore a BIOS when it has become corrupted.

Installation

Phoenix Phlash is shipped on a floppy disk with your computer as a compressed file called CRISDISK.ZIP that contains the following files:

CRISDISK.BAT	Executable file for creating the Crisis Recovery Diskette.
PHLASH16.EXE	Performs platform-dependent functions.
BIOS.ROM	Actual BIOS image to be programmed into flash ROM.
MINIDOS.SYS	Allows the system to boot in Crisis Recovery Mode.
MAKEBOOT.EXE	Creates the custom boot sector on the Crisis Recovery Diskette.

Executing Phoenix Phlash16.exe program

You can run Phoenix Phlash16.exe program to upgrade your BIOS version.

1. To put the Phlash16.exe program into A:\
2. To put the BIOS into A:\
3. Typing the command" A:\Phlash16 BIOSNAME.rom"

4. Upgrade your BIOS completely.

Create the Crisis Recovery Diskette

If the OEM or dealer from whom you purchased your system has not provided you with one, then you should create a **Crisis Recovery Diskette** before you use the Phlash utility. If you are unable to boot your system and successfully load the Operating System, the BIOS may have been corrupted, in which case you will have to use the Crisis Recovery Diskette to reboot your system. There are several methods that you can use to create the Crisis Recovery Diskette. Below is one recommended procedure.

1. Be sure you have successfully installed the Phlash Utility onto your hard disk.
2. Insert a clean diskette into drive A: or B:
3. From the local directory, enter the following: CRISDISK [drive]:
   where [*drive*] is the letter of the drive into which you inserted the diskette.For help, type **/?** or **/h**. CRISDISK.BAT formats the diskette, then copies MINIDOS.SYS, VGABIOS.EXE (if available), PHLASH.EXE, PLATFORM.BIN and BIOS.ROM to the diskette, and creates the Required custom boot sector.
4. Write protect and label the Crisis Recovery Diskette.

NOTE

You can only supply a volume label after the Crisis Recovery Diskette has been formatted and the necessary files copied because MINIDOS.SYS must occupy the first directory entry for the diskette to boot properly.

Updating the Crisis Recovery Diskette

If the BIOS image (BIOS.ROM) changes due to an update or bug fix, you can easily update the Crisis Recovery Diskette. Simply copy the new BIOS.ROM image onto the Crisis Recovery Diskette. No further action is necessary.

WARNING

For your own protection, be sure your have a Crisis Recovery Diskette ready to use before excuting Phlash.

Command Line Mode

Use this mode to update or replace your current BIOS. To execute Phlash in this mode, move to the directory into which you have installed Phoenix Phlash and type the following:

Phlash

Phoenix Phlash will automatically update or replace the current BIOS with the one which your OEM or dealer supplies you.
Phlash may fail if your system is using memory managers, in which case the utility displays the following message:

Cannot flash when memory managers are present.

If you see this message after you execute Phlash, you must disable the memory manager on your system. To do so, follow the instructions in the following sections.

Disabling Memory Managers

To avoid failure when flashing, you must disable the memory managers that load from CONFIG.SYS and AUTOEXEC.BAT. There are two recommended procedures for disabling the memory managers. One consists of pressing the <F5> key (only if you are using DOS 5.0 or above), and the other requires the creation of a boot diskette.

DOS 5.0 (or later version)

For DOS 5.0 and later, follow the two steps below to disable any memory managers on your system. If you are not using at least DOS 5.0, then you

must create a boot diskette to bypass any memory managers (See Create a Boot Diskette, below).

1. Boot DOS 5.0 or later version. (In Windows 95, at the boot option screen, choose Option 8, "Boot to a previous version of DOS.")
2. When DOS displays the “Starting MS-DOS” message, press <F5>.

After you press <F5>, DOS bypasses the CONFIG.SYS and AUTOEXEC.BAT files, and therefore does not load any memory managers.
You can now execute Phlash.

Create a Boot Diskette

To bypass memory managers in DOS versions previous to 5.0, follow this recommended procedure:

1. Insert a diskette into your A: drive.
2. Enter the following from the command line: Format A: /S
3. Reboot your system from the A: drive.

Your system will now boot without loading the memory managers, and you can then execute Phlash.

Crisis Recovery Mode

You should only have to operate Phoenix Phlash in this mode only if your system does not boot the operating system when you turn on or reset your computer. In these cases, the BIOS on the Flash ROM has probably been corrupted. Boot your system with the Crisis Recovery Diskette taking these steps:

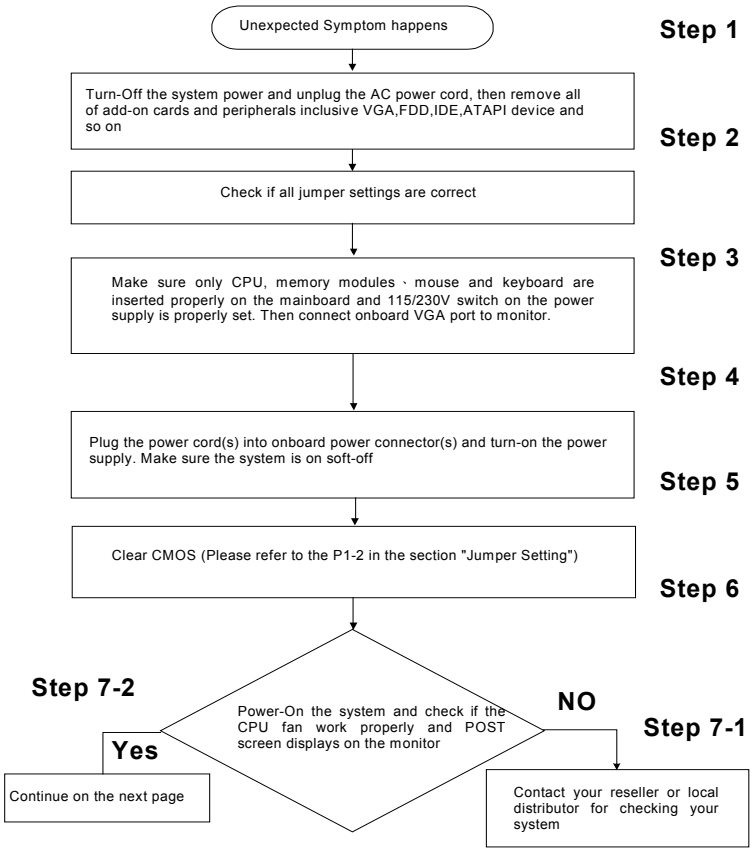
1. Insert the Crisis Recovery diskette (which your dealer supplied or one that you should have created from the instructions above) into drive A:\.
2. Reset your computer, power off-on, or press <Ctrl> <Alt> <Del> to reboot the system.
3. When your system reboots, Phoenix Phlash will restore the BIOS from the diskette and successfully boot the operating system.

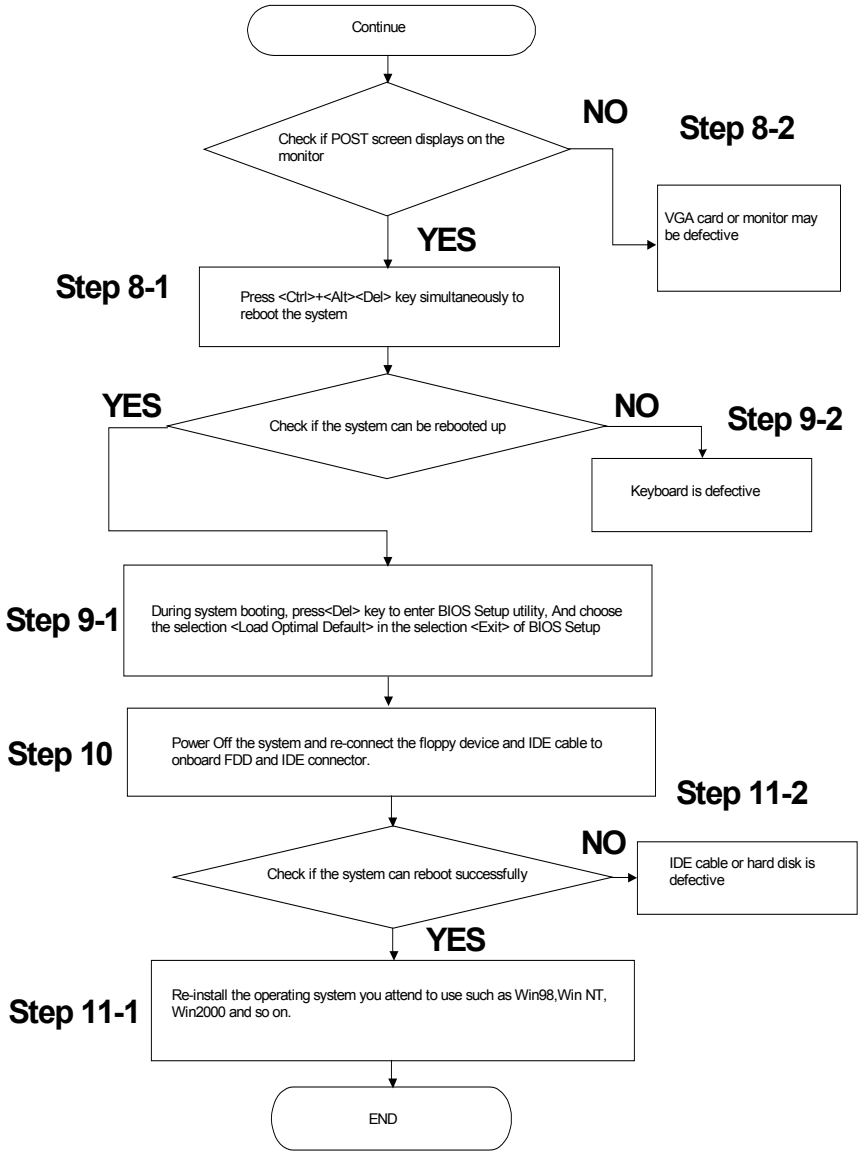
Appendix A

Troubleshooting

The following is a checking procedure for common problem encountered during system assembly.

Toubleshooting Procedure


Unexpected Symptom happens
Step 1
Turn-Off the system power and unplug the AC power cord, then remove all of add-on cards and peripherals inclusive VGA,FDD,IDE,ATAPI device and so on
Step 2
Check if all jumper settings are correct
Step 3
Make sure only CPU, memory modules、mouse and keyboard are inserted properly on the mainboard and 115/230V switch on the power supply is properly set. Then connect onboard VGA port to monitor.
Step 4
Plug the power cord(s) into onboard power connector(s) and turn-on the power supply. Make sure the system is on soft-off
Step 5
Clear CMOS (Please refer to the P1-2 in the section "Jumper Setting")
Step 6
Power-On the system and check if the CPU fan work properly and POST screen displays on the monitor
Step 7-2
Yes
Continue on the next page
NO
Step 7-1
Contact your reseller or local distributor for checking your system


Continue
Check if POST screen displays on the monitor
NO
Step 8-2
VGA card or monitor may be defective
YES
Step 8-1
Press <Ctrl>+<Alt><Del> key simultaneously to reboot the system
YES
Check if the system can be rebooted up
NO
Step 9-2
Keyboard is defective
Step 9-1
During system booting, press<Del> key to enter BIOS Setup utility, And choose the selection <Load Optimal Default> in the selection <Exit> of BIOS Setup
Step 10
Power Off the system and re-connect the floppy device and IDE cable to onboard FDD and IDE connector.
Step 11-2
NO
Check if the system can reboot successfully
IDE cable or hard disk is defective
YES
Step 11-1
Re-install the operating system you attend to use such as Win98,Win NT, Win2000 and so on.
END

WARNING

Before you insert any add-on card or hardware component in the UPX, always disconnect the power cord first.

2.Symptom checking List

Sy nptom	Check point
No Power (FAN is not rotating)	1. Make sure no short circuit exist between the motherboard and chassis 2. Check if all jumpers are set to the default position. 3. Check if the 115V/230V switch on the power supply is properly set. 4. Check the CPU is inserted properly into CPU socket. 5. Check the power cord of the CPU fan is plugged into the correct position. 6. Turn the power switch on and off to test the system 7. Check the power of the battery on the M/B. In general, the battery voltage is around 3VDC.
Can power on the system (FAN is rotating), but no screen display.	1. Remove all the add-on card exclusive CPU, and memory modules. 2. Check if the memory is PC2100 DDR Module. Please check your reseller for qualified memory available vendor list (AVL). 3. Check if all jumpers are set to the default position. 4. Clear CMOS by using CLRTC jumper. 5. Check if the connection is connected properly between onboard VGA port and monitor. 6. Use speaker to determine the symptom.
Memory Error	1. Check if the memory DIMM module is inserted

	into DIMM socket properly. 2. Check if different speed memory modules are mixed and used in the UPX. Verify the BIOS setup is configuration for the fastest speed of RAM used. IWILL recommend always use the same speed RAM in the system. 3. Make sure your memory module(s) is compliant with PC2100 Spec in the UPX.

Appendix B

Symptom Report Form

M/B	**UPX**		**Serial Number**				**BIOS version**				
CPU 1											
CPU 2											
DIMM 0											
	Size		MB	Brand			Component Model				
DIMM 1											
	Size		MB	Brand			Component Model				
DIMM 2											
	Size		MB	Brand			Component Model				
DIMM 3											
	Size		MB	Brand			Component Model				
FDD											
PCI-X 1											
PCI-X 2											
PCI64-1											
PCI32 1											
PCI32 2											
PCI32 3											
Onboard IDE 0	Master										
	Slave										

Onboard IDE 1	Master				
	Slave				
Onboard IDE RAID CH 0					
Onboard IDE RAID CH 1					
Power Supply		Watt	Model Number		
Other Devices					
Operating system					
Symptom Description:					
Name:					
Contact email address:					